

Date: Thu, 25 Feb 93 12:59:31 PST  
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>  
Errors-To: Info-Hams-Errors@UCSD.Edu  
Reply-To: Info-Hams@UCSD.Edu  
Precedence: Bulk  
Subject: Info-Hams Digest V93 #255  
To: Info-Hams

Info-Hams Digest                      Thu, 25 Feb 93                      Volume 93 : Issue    255

Today's Topics:

                  diagnosing persnickety problems  
                  Elevated Radials (2 msgs)  
          Gain equations for pyramidal horn antennas  
                  Great Repeater Antennas  
                  HELP! SATELLITE TV DESCRAMBLER  
                  Mods for Icom 2400A  
          Municipalities can restrict antennas?  
          Need current DXCC countries list (2 msgs)  
                  Rechargable Batteries???  
                  Rx converters for six (2 msgs)  
                  Stock ticker tape on UHF  
                  too darn big!  
          Visual Code tree useful ONLY IN MORSE TRAINER PROGs maximize skill  
                  W9RG filter info needed!!!

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: 25 Feb 93 16:52:14 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: diagnosing persnickety problems  
To: info-hams@ucsd.edu

Never overlook even the dumbest things when diagnosing problems in the  
shack. My MFJ-948 tuner was making all kinds of crackling and occasional  
popping sounds whenever I'd transmit (except on 40 meters). I finally  
replaced the cheap right angle adapter I bought for the coax antenna input

with one made by Amphenol - and the problem disappeared. I have no idea why the adapter caused the problem - I was "getting out" just fine.

I use a 30 meter dipole fed with 35 feet of 450 ohm plastic-insulated line. I used to bring that wire directly into the shack and to the balanced line terminals of the tuner. But after several months, the tuner developed rising swr problems after transmitting a short time. I suspected overheating and damage to the tuner's little internal balun, so I bought a Radio Works "remote balun", a 6' length of super duper coax with crimp connectors installed, and a right angle UHF adapter. The woman on the phone said they were out of the "good" adapters; all they have is the cheaper "spring-loaded" ones. I bought one anyway, and that was a mistake. However, the mistake is a learning experience, and I now know better than to scrimp on quality when it comes to cables, connectors, and connections.

An engineer I work with disassembled this spring loaded connector to see how it's made. A gold-plated pin drops down making contact with a spring. No permanent connection is made - the pin and spring "just touch". If you jiggle it around some, the resistance changes somewhat. Even so, just looking at how it's made, it's a miracle that there's any continuity at all.

Howard KE7QJ    hlester@as.arizona.edu

-----  
Date: Thu, 25 Feb 1993 14:40:49 GMT  
From: pacbell.com!att-out!cbfsb!cbnewsg.cb.att.com!wstrahl@network.UCSD.EDU  
Subject: Elevated Radials  
To: info-hams@ucsd.edu

The March 1993 issue of QST (Technical Correspondence - page 72) has an article which purports that a few elevated radials can be as effective as the '120 radial standard in-ground groundplane' under .25 wavelength high vertical monopoles. I'm not from Missouri, but can someone please "SHOW ME" if this is in fact true. Is this the secret we've all been looking for for our 80 mtr antenna efficiency problems? Has anyone actually tried these changes and made some field strength measurements? Maybe someone with broadcast antenna experiences can help to substantiate this article? How about it W7EL, K2BT, KE4ZV and you other knowledgeable fellows out there?

Wayne Strahl - W9II                    wstrahl@cbnewsg.att.com

-----  
Date: Thu, 25 Feb 1993 15:42:06 GMT  
From: pacbell.com!att-out!cbfsb!cbnewsb.cb.att.com!feg@network.UCSD.EDU  
Subject: Elevated Radials

To: info-hams@ucsd.edu

In article <1993Feb25.144049.15099@cbfsb.cb.att.com> wstrahl@cbnewsg.cb.att.com (wayne.a.strahl) writes:

>  
>The March 1993 issue of QST (Technical Correspondence - page 72) has an  
>article which purports that a few elevated radials can be as effective  
>as the '120 radial standard in-ground groundplane' under .25 wavelength  
>high vertical monopoles. I'm not from Missouri, but can someone please  
>"SHOW ME" if this is in fact true. Is this the secret we've all been  
>looking for for our 80 mtr antenna efficiency problems? Has anyone  
>actually tried these changes and made some field strength measurements?  
>Maybe someone with broadcast antenna experiences can help to substantiate  
>this article? How about it W7EL, K2BT, KE4ZV and you other knowledgeable  
>fellows out there?

>  
>Wayne Strahl - W9II                      wstrahl@cbnewsg.att.com  
>

I view it with suspicion and I have seen the article by Christman.  
Here are some reasons:

You have to know a lot more about the system. E.g. results are affected by the height of the ground plane above ground. The length of the radials has a great affect; as radials are lengthened beyond several wavelengths you see a kind of damped sine wave, but at the beginning of this affect the self-impedance of a 1/4 vertical, instead of the expected 37 ohms it might be 80 to 150 ohms. I hasten to add, however, if depressing the takeoff angle is what you are after that is the way to go, whether the radials are raised or on the ground.

The system is affected mightily by whether the ends of the raised radials are joined by a circular wire around the edge (the same as happens with a top hat). Finally, is there a sneak path via the earth to the transmitter? If so, now we must know how good the earth conductivity path is and how long it is. (There was a raised radial article in QST some years ago where this point was entirely ignored).

A fellow by name of Wiener up at Mitre has done extensive work with large radial systems and if you can wade through all the data you finally conclude that there ain't no free lunch. The worst thing you can do with a radial system is to bury it too deep. (;-) That doesn't happen until you get quite high in frequency.

BTW, Wiener's data did not raise the radials very far above earth--as I recall, not more than what would amount to a few inches above ground at 80meters.

Bob Lewis, w2ebs, one of the co-inventors of the common vertical used at VHF (the one with a 1/4 wavelength vertical and four 1/4 w.l. radials) says that his study of the vertical radiation pattern could be likened to a scalloped candy dish, i.e. the takeoff angle drops lowest over each radial and then rises in the sector between radials. He says it's a good antenna for the application (local point-to-point) but he wouldn't recommend it for DX-ing).

Forrest Gehrke feg@dodger.att.com k2bt

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Date: Wed, 24 Feb 1993 21:05:13 GMT  
From: usc!sdd.hp.com!hpscit.sc.hp.com!hplextra!hpl-opus!hpnmdla!  
alanb@network.UCSD.EDU  
Subject: Gain equations for pyramidal horn antennas  
To: info-hams@ucsd.edu

In rec.radio.amateur.misc, cromwell@sclera.ecn.purdue.edu (Bob Cromwell) writes:

>I'm looking for an equation to provide the gain of a pyramidal horn.

I think the physical aperture of the horn is approximately equal to the electrical aperture or "capture area." If so, then the gain would be

$$\text{Gain} = \text{Aperture (in square wavelengths)} \times 4 \text{ PI}$$

If the horn mouth were 1 wavelength high and 1 wavelength wide, then the gain would be  $4 \text{ PI} = 12.57$  or 11 dB over isotropic, 8.85 dB over a dipole.

AL N1AL

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Date: 25 Feb 93 15:26:22 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Great Repeater Antennas  
To: info-hams@ucsd.edu

A kind and generous amateur has donated an older RCA UHF repeater to our club.



--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

-----  
Date: 25 Feb 93 14:47:00 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Mods for Icom 2400A  
To: info-hams@ucsd.edu

I have just recently purchased a used Icom 2400A. Does anyone know of modifications that can be done to this radio for out-of-band transmit/receive, cross-repeat functions, and anything else of interest.

Thanks in advance.

Ty KB9CKV

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Date: 25 Feb 93 20:15:24 GMT  
From: usc!elroy.jpl.nasa.gov!news.claremont.edu!ucivax!gateway@network.UCSD.EDU  
Subject: Municipalities can restrict antennas?  
To: info-hams@ucsd.edu

Does anyone have any information on a Federal Appellate (or district) decision regarding a Municipality that was able to prevent a ham from having antennas? (Seemingly contradicting PRB-1) I have heard second hand, but from a good source, that such a case exists out here.

I am involved with a similar case down here in Southern California, and I need to know about any decisions that go against PRB-1, as well as the favorable decisions.

Any help in finding the citation would be appreciated. If no one has a quick cite, I will go look around and bring back the pertinent info for anyone who is interested.

.....  
Clark Savage Turner, Graduate Student Researcher  
Safety Critical Software Group home:  
Department of Info. and Computer Science 1514 Verano Place  
Irvine, CA. 92717 Irvine, CA. 92715

(714) 856 4049

(714) 856 2131

WA3JPG, QRP #3526, active on HF, VHF and UHF.  
Admitted to practice law in California, Massachusetts, and New York.  
ARRL Volunteer Counsel

-----  
Date: 25 Feb 93 13:39:24 GMT  
From: usc!sdd.hp.com!saimiri.prima.te.wisc.edu!crdgv1!rdsunx.crd.ge.com!islandgirl!  
gaus@network.UCSD.EDU  
Subject: Need current DXCC countries list  
To: info-hams@ucsd.edu

Fellow hams,

I have a DXCC countries list, but it is a few years old. Could  
someone please send me a current list by email? Thanks for your  
help.

73,

Rick Gaus  
WA3INC

-----  
Date: Thu, 25 Feb 1993 18:35:30 GMT  
From: usc!cs.utexas.edu!qt.cs.utexas.edu!news.Brown.EDU!noc.near.net!lynx!  
lkay@network.UCSD.EDU  
Subject: Need current DXCC countries list  
To: info-hams@ucsd.edu

In article <1993Feb25.133924.20394@crd.ge.com>,  
gaus@islandgirl.crd.ge.com (Rick Gaus) writes:

> Fellow hams,

>

> I have a DXCC countries list, but it is a few years old. Could  
> someone please send me a current list by email? Thanks for your  
> help.

>

The DXCC list (and a lot of other useful files) is now available  
directly from the ARRL via Email. Yes, the ARRL is now on Internet  
which may still be a surprise to some...

Anyway, to get the archive index, send 'help' as  
the message text to : info@arrl.org . The reply (at least for me)

is quite fast, I've gotten multiple requests in one day.

Good luck!

Len

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-----
Dr. Leonard Kay, KB2R           | "But we are not dealing with the
Electrical and Computer Engineering | normal world. We are chasing DX."
Northeastern University, Boston   | -- W9KNI, 'The Complete DXer'
NU ARC: W1KBN 145.31(-)          |
Packet: KB2R@K1EA                | #include <disclaimer.h>
-----
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Date: 25 Feb 93 12:00:48 GMT
From: ogicse!emory!rsiatl!ke4zv!gary@network.UCSD.EDU
Subject: Rechargable Batteries???
To: info-hams@ucsd.edu
```

In article <hugie.730576963@sfu.ca> hugie@beaufort.sfu.ca (Don Hugie) writes:  
> I've recently purchased rechargable batteries for my Sangean 808 shortwave  
>radio. I've noticed that the battery meter drops off very quickly compared  
>to normal alkaline batteries. Does anyone know if rechargable batteries have  
>adequate performance for use in such radio??? Thanks!

There are two problems. First, NiCads have a terminal voltage of 1.2 while alkaline batteries have a terminal voltage of 1.5 volts. So 4 alkaline batteries have a pack voltage of 6 volts while 4 NiCads have a a terminal voltage of 4.8 volts. Obviously that's going to confuse the battery strength indicator. In addition to that, the total charge held by a NiCad is less than that held by a same size alkaline due to chemistry differences. On the other hand, the terminal voltage of an alkaline drops smoothly with discharge while the NiCad's terminal voltage holds relatively steady until end of life. If you can wire in one additional cell, your NiCad performance should be equal to, or better than, an alkaline pack.

Gary

```
--
Gary Coffman KE4ZV           | You make it,           | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it.           | uunet!rsiatl!ke4zv!gary
534 Shannon Way            | Guaranteed!            | emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244    |                          |
-----
```



Date: 25 Feb 93 12:14:02 GMT  
From: ogicse!emory!rsiatl!ke4zv!gary@network.UCSD.EDU  
Subject: Rx converters for six  
To: info-hams@ucsd.edu

In article <1993Feb24.203330.64492@cc.usu.edu> slp9m@cc.usu.edu (Scott E. Parker WA7VYJ) writes:

>Can someone point me to a circuit for a good 6m -> 10m receive  
>converter? The most recent Handbook I have is a 1987. It has the  
>same receive converter designs that have been in there for years  
>and years. How good are these? Anyone have experience with these  
>designs?

They're fine which is why they haven't changed.

>Also, has anyone attempted a receive converter by taking the IF  
>of a Motorola 3362, 3363 or 13135 FM receiver chip out to an HF  
>receiver? I'd like to hear your comments.

The limiting action of the IFs of these chips will ruin any linear modulation.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

-----

Date: Thu, 25 Feb 93 15:59:47 GMT  
From: pacbell.com!att-out!walter!porthos!dancer!whs70@network.UCSD.EDU  
Subject: Rx converters for six  
To: info-hams@ucsd.edu

In article <1993Feb24.203330.64492@cc.usu.edu> slp9m@cc.usu.edu (Scott E. Parker WA7VYJ) writes:

>Can someone point me to a circuit for a good 6m -> 10m receive  
>converter? The most recent Handbook I have is a 1987. It has the  
>same receive converter designs that have been in there for years  
>and years. How good are these? Anyone have experience with these  
>designs?

What is your goal, 6m CW, SSB, FM? If it is just FM as from a repeater, then any cheap scanner will usually have 6m coverage and that may be

far cheaper in time and effort than the 6m converter route.

Just a suggestion.

Standard Disclaimer- Any opinions, etc. are mine and NOT my employer's.

-----  
Bill Sohl (K2UNK) BELLCORE (Bell Communications Research, Inc.)  
Morristown, NJ                      email via UUCP              bcr!cc!whs70  
201-829-2879 Weekdays              email via Internet      whs70@cc.bellcore.com  
-----

Date: 25 Feb 93 12:20:41 GMT  
From: ogicse!emory!rsiatl!ke4zv!gary@network.UCSD.EDU  
Subject: Stock ticker tape on UHF  
To: info-hams@ucsd.edu

In article <1993Feb25.070029.28837@mcshub.dcss.mcmaster.ca>  
pkerr@maccs.mcmaster.ca (Paul Kerr) writes:  
>Hi, I am DEFINATELY a radio (etc.) newbie so please excuse any ignorance.  
>  
> I have heard that stock market quotes are broadcast on UHF and am interested  
>in setting something up to receive these signals and feed them to my computer.  
>  
>What I would like to know if this is in fact true? And if so can someone please  
>point me in the direction of some literature that would allow me to start  
>investigating the possibilities of doing this.

These pay services are transmitted as subcarriers on local FM broadcast  
stations. They are encrypted, so even if you built a subcarrier demodulator  
you couldn't use them.

Gary

--  
Gary Coffman KE4ZV                      |      You make it,                      | gatech!wa4mei!ke4zv!gary  
Destructive Testing Systems |      we break it.                      | uunet!rsiatl!ke4zv!gary  
534 Shannon Way                      |      Guaranteed!                      | emory!kd4nc!ke4zv!gary  
Lawrenceville, GA 30244              |                                      |  
-----

Date: Thu, 25 Feb 1993 11:49:22 GMT  
From: pacbell.com!sgiblab!swrinde!emory!rsiatl!ke4zv!gary@network.UCSD.EDU  
Subject: too darn big!  
To: info-hams@ucsd.edu

In article <1993Feb25.005736.12188@mkso1.dseg.ti.com> blair@dseg.ti.com writes:

>>>Every day 50 to 100 messages pass thru this group. It's gotten too big to  
>>>keep up with. How many people would like to see some division? Maybe  
>>>seperate groups for packet, roll-your-own 'rs, mods, antennas, antiques, etc.  
>>>Art. KB0DSI  
>  
>>We've split it twice before. It hasn't helped. The best solution is a  
>>threaded newsreader, or if you get the group by mail, a smart mail  
>>agent can do the same thing for you.  
>  
>How do you mean "it hasn't helped". Are the other boards active? If so,  
>it did help or the newsgroup would be even worse.  
>Art.

Judge for yourself. The other two groups are rec.radio.amateur.packet  
and rec.radio.amateur.policy. How many packet questions have you seen  
here? How many on regulatory matters? The packet group gets used a bit  
more, but the policy group is largely ignored. Neither has as much  
volume \*on their specific topics\* as the general group. This indicates  
to me that both are failures in moving these discussions off the general  
group.

Gary

```
--
Gary Coffman KE4ZV          | You make it,      | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it.     | uunet!rsiatl!ke4zv!gary
534 Shannon Way           | Guaranteed!      | emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244    |                   |
```

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Date: 25 Feb 93 04:33:23 GMT
From: usc!sdd.hp.com!news.cs.indiana.edu!bsu-cs!bsu-ucs.uucp!
00mbroper@network.UCSD.EDU
Subject: Visual Code tree useful ONLY IN MORSE TRAINER PROGs maximize skill
To: info-hams@ucsd.edu
```

I am writing this with a REALLY DUMB  
DUMB TERMINAL ANM UNABLE TO SEE WHAT I'M SENDING.

I have enjoyed reading megabytes of flames toward a newbie that had a incocent  
question-- he was flamed first for coping code visually (must be correct or  
nothing/silent?)

Next HIS SPELLING WAS WRONG(whether he didn't know or care wasn't DECIDED by WE  
the netters-wow)

Amazing--this comment from people who seem to enjoy morse code but who are only

expected to be 70% correct to pass exams. This is the only group were code able people are experienced at filtering out junk and qrm/qrn/xyl noise.

I've noticed some code tapes are CLEVER--THEY SEND 'BVYCQ H5SJG' -- characters that are related by adding/sub dits/dahs to help distinguish SIMILAR codes. here is my chart: I constructed a trinary tree (dit,dah,and space) and displayed as n,2n,2n+1 binary tree(biased so E&T on top).

```

                        code Start
          dit an E      dah side T
    add dit Iadd dot A      + dit N      +- M
    s   u   R   W   B   K   G   O
    H   V   F   _   L   _   P   J   B   X   C
    Y   Z   Q   _   _   _   1   6   =   /   7   _   8   9   0
    5 4   _ 3   _ _ _ 2   _ _ +   1   6   =   /   7   _   8   9   0
          @   ?   .

```

I've used + for \_AR\_, @ for \_SK\_, = for \_BT\_, and / for \_dn\_.  
there must be other symbols (\$[\*]; \_aa\_ \_as\_ etc)

I think this approach is used by those who write Morse Readers.

There is a BASIC program to explore the tree(append dit/dah or subtract)  
on my epson maple cpm portable. I could mail it when I can xmodem the prog out.

-----

Date: Thu, 25 Feb 1993 14:42:33 GMT  
From: usc!howland.reston.ans.net!europa.eng.gtefsd.com!emory!sol.ctr.columbia.edu!  
caen!malgudi.oar.net!news.ysu.edu!yfn.ysu.edu!ag821@network.UCSD.EDU  
Subject: W9RG filter info needed!!!  
To: info-hams@ucsd.edu

In a previous article, tedwards@eng.umd.edu (Thomas Grant Edwards) says:

```

>Hello! I'm a member of a university amateur radio club which is
>interested in obtaining the W9RG DSP filter.
>
>In order to purchase this device, we need to get the tax id
>number of the company which produces it (for our brain-dead
>purchasing dept.). Due to budgetary problems, we need to get
>this thing ordered fast!
>
>Does anyone know the telephone number for the company which
>produces the W9RG DSP filter???
>
>73
>

```

>Thomas Edwards  
>  
>N3HAU member W3EAX U.M. ARA  
>  
>

I believe you mean the W9GR filter. There is a big backlog waiting for these. I ordered mine in Nov. and am scheduled to get it in March. They had some problem with Texas Instruments and their chips. The good news is that instead of needing separate chips for different functions, there are now 10 Front Panel selectable modes. The newer model is \$132 with Shipping and handling. Worth waiting for from what I have heard from people who are using them.

There is no phone # on anything but here is their address:  
Quantics  
P.O. Box 2163  
Nevada City, CA 95959-2163

73s

Jeff, AC4HF  
--  
Jeff M. Gold, AC4HF  
Manager, Academic Computing Support  
Tennessee Technological University

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End of Info-Hams Digest V93 #255  
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